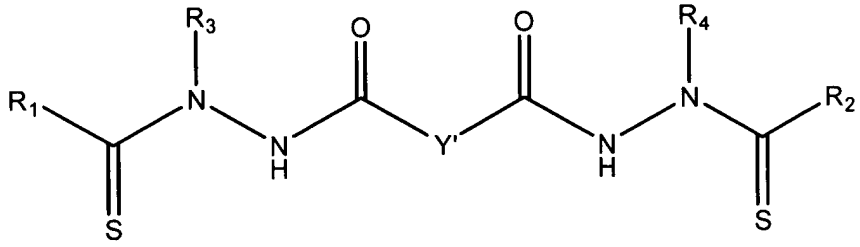
Amendments to the Claims

Please cancel Claims 1-7, 15, 18-24, 32 and 36. Please amend Claims 8, 11-13, 16, 25, 28-30, 33, 34, 35, 37, 38 and 39. Please add new Claims 40-50. The Claim Listing below will replace all prior versions of the claims in the application:

Claim Listing

1-7. (Canceled)

8. (Currently Amended) A method of treating a subject with a multi-drug resistant cancer selected from the group consisting of leukemia, uterine sarcoma and melanoma, said method comprising administering to the subject an effective amount of a compound represented by the following structural formula:



;

or a pharmaceutically acceptable salt thereof, wherein:

Y' is a covalent bond or $-C(R_7R_8)-$;

R_1 and R_2 are each a substituted or unsubstituted [[aryl]] phenyl group;

R_3 and R_4 are each a substituted or unsubstituted aliphatic group;

R_7 is -H; and

R_8 is -H, an aliphatic or substituted aliphatic group.

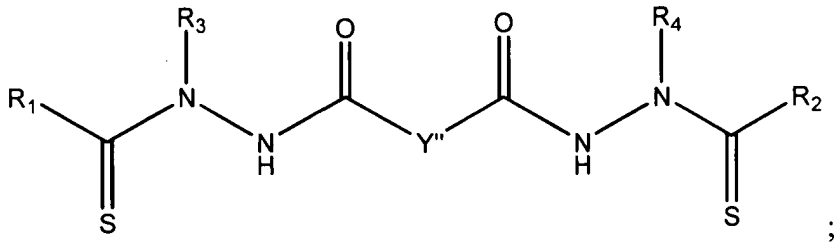
9. (Original) The method of Claim 8 wherein R_1 and R_2 are the same and R_3 and R_4 are the same.

10. (Original) The method of Claim 9 wherein R_3 and R_4 are each an alkyl group and R_8 is -H or methyl.

11. (Currently Amended) The method of Claim 10 wherein ~~R_1 and R_2 are each a substituted or unsubstituted phenyl group and~~ R_3 and R_4 are each methyl or ethyl.

12. (Currently Amended) The method of Claim 11 wherein the phenyl group represented by R_1 and the phenyl group represented by R_2 are optionally substituted with one or more groups selected from OH, -Br, -Cl, -I, -F, $-OR^a$, $-O-COR^a$, $-COR^a$, -CN, $-NO_2$, -COOH, $-SO_3H$, $-NH_2$, $-NHR^a$, $-N(R^aR^b)$, $-COOR^a$, -CHO, $-CONH_2$, $-CONHR^a$, $-CON(R^aR^b)$, $-NHCOR^a$, $-NRCOR^a$, $-NHCONH_2$, $-NHCONR^aH$, $-NHCON(R^aR^b)$, $-NR^cCONH_2$, $-NR^cCONR^aH$, $-NR^cCON(R^aR^b)$, $-C(=NH)-NH_2$, $-C(=NH)-NHR^a$, $-C(=NH)-N(R^aR^b)$, $-C(=NR^c)-NH_2$, $-C(=NR^c)-NHR^a$, $-C(=NR^c)-N(R^aR^b)$, $-NH-C(=NH)-NH_2$, $-NH-C(=NH)-NHR^a$, $-NH-C(=NH)-N(R^aR^b)$, $-NH-C(=NR^c)-NH_2$, $-NH-C(=NR^c)-NHR^a$, $-NH-C(=NR^c)-N(R^aR^b)$, $-NR^d-C(=NH)-NH_2$, $-NR^d-C(=NH)-NHR^a$, $-NR^d-C(=NH)-N(R^aR^b)$, $-NR^d-C(=NR^c)-NH_2$, $-NR^d-C(=NR^c)-NHR^a$, $-NR^d-C(=NR^c)-N(R^aR^b)$, $-NHNH_2$, $-NHNHR^a$, $-NHNR^aR^b$, $-SO_2NH_2$, $-SO_2NHR^a$, $-SO_2NR^aR^b$, $-CH=CHR^a$, $-CH=CR^aR^b$, $-CR^c=CR^aR^b$, $-CR^c=CHR^a$, $-CR^c=CR^aR^b$, $-CCR^a$, -SH, $-SR^a$, $-S(O)R^a$, $-S(O)_2R^a$, a non-aromatic heterocyclic group, ~~a substituted non-aromatic heterocyclic group,~~ a benzyl group, ~~a substituted benzyl group,~~ an aryl group ~~or substituted aryl group~~, wherein R^a-R^d are each independently an alkyl group, ~~substituted alkyl group,~~ benzyl, ~~substituted benzyl,~~ aromatic ~~or substituted aromatic~~ group, or, $-N(R^aR^b)$, taken together, form a ~~substituted or unsubstituted~~ non-aromatic heterocyclic group.

13. (Currently amended) A method of treating a subject with a multi-drug resistant cancer selected from the group consisting of leukemia, uterine sarcoma and melanoma, said method comprising administering to the subject an effective amount of a compound ~~The method of Claim 1 wherein the compound is~~ represented by the following structural formula:



;

or a pharmaceutically acceptable salt thereof, wherein

Y" is a covalent bond or $-CH_2-$; [[and]]

R_1 and R_2 are both a substituted or unsubstituted aliphatic group; and

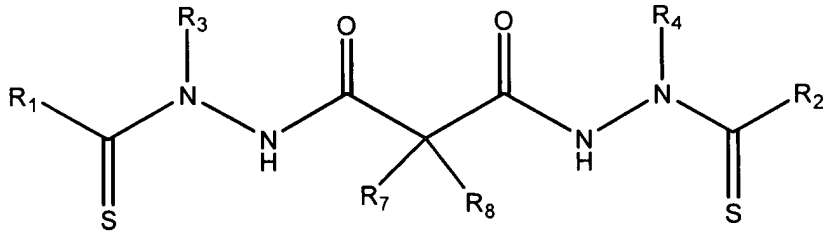
R_3 and R_4 are both a substituted or unsubstituted alkyl group.

14. (Original) The method of Claim 13 wherein R_1 and R_2 are both C3-C8 cycloalkyl group optionally substituted with at least one alkyl group.

15. (Canceled)

16. (Currently Amended) The method of Claim ~~15~~13 wherein R_1 and R_2 are both cyclopropyl or 1-methylcyclopropyl.

17. (Previously presented) A method of treating a subject with a multi-drug resistant cancer selected from the group consisting of leukemia, uterine sarcoma and melanoma, said method comprising administering to the subject an effective amount of a compound represented by the following structural formula:



;

or a pharmaceutically acceptable salt thereof, wherein:

R_1 and R_2 are both phenyl; R_3 and R_4 are both methyl; R_7 and R_8 are both -H;

R_1 and R_2 are both phenyl; R_3 and R_4 are both ethyl; R_7 and R_8 are both -H;

R_1 and R_2 are both 4-cyanophenyl; R_3 and R_4 are both methyl; R_7 is methyl; R_8 is -H;

R_1 and R_2 are both 4-methoxyphenyl; R_3 and R_4 are both methyl; R_7 and R_8 are both -H;

R_1 and R_2 are both phenyl; R_3 and R_4 are both methyl; R_7 is methyl; R_8 is -H;

R_1 and R_2 are both phenyl; R_3 and R_4 are both ethyl; R_7 is methyl; R_8 is -H;

R_1 and R_2 are both 4-cyanophenyl; R_3 and R_4 are both methyl; R_7 and R_8 are both -H;

R_1 and R_2 are both 2,5-dimethoxyphenyl; R_3 and R_4 are both methyl; R_7 and R_8 are both -H;

R_1 and R_2 are both 2,5-dimethoxyphenyl; R_3 and R_4 are both methyl; R_7 is methyl; R_8 is -H;

R_1 and R_2 are both 3-cyanophenyl; R_3 and R_4 are both methyl; R_7 and R_8 are both -H;

R_1 and R_2 are both 3-fluorophenyl; R_3 and R_4 are both methyl; R_7 and R_8 are both -H;

R_1 and R_2 are both 4-chlorophenyl; R_3 and R_4 are both methyl; R_7 is methyl; R_8 is -H;

R_1 and R_2 are both 2-dimethoxyphenyl; R_3 and R_4 are both methyl; R_7 and R_8 are both -H;

R_1 and R_2 are both 3-methoxyphenyl; R_3 and R_4 are both methyl; R_7 and R_8 are both -H;

R_1 and R_2 are both 2,3-dimethoxyphenyl; R_3 and R_4 are both methyl; R_7 and R_8 are both -H;

R_1 and R_2 are both 2,3-dimethoxyphenyl; R_3 and R_4 are both methyl; R_7 is methyl; R_8 is -H;

R_1 and R_2 are both 2,5-difluorophenyl; R_3 and R_4 are both methyl; R_7 and R_8 are both -H;

R_1 and R_2 are both 2,5-difluorophenyl; R_3 and R_4 are both methyl; R_7 is methyl; R_8 is -H;

R_1 and R_2 are both 2,5-dichlorophenyl; R_3 and R_4 are both methyl; R_7 and R_8 are both -H;

R_1 and R_2 are both 2,5-dimethylphenyl; R_3 and R_4 are both methyl; R_7 and R_8 are both -H;

R_1 and R_2 are both 2,5-dimethoxyphenyl; R_3 and R_4 are both methyl; R_7 and R_8 are both -H;

R_1 and R_2 are both phenyl; R_3 and R_4 are both methyl; R_7 and R_8 are both -H;

R_1 and R_2 are both 2,5-dimethoxyphenyl; R_3 and R_4 are both methyl; R_7 is methyl; R_8 is -H;

R_1 and R_2 are both cyclopropyl; R_3 and R_4 are both methyl; R_7 and R_8 are both -H;

R_1 and R_2 are both cyclopropyl; R_3 and R_4 are both ethyl; R_7 and R_8 are both -H;

R_1 and R_2 are both cyclopropyl; R_3 and R_4 are both methyl; R_7 is methyl; R_8 is -H;

R_1 and R_2 are both 1-methylcyclopropyl; R_3 and R_4 are both methyl; R_7 and R_8 are both -H;

R_1 and R_2 are both 1-methylcyclopropyl; R_3 and R_4 are both methyl; R_7 is methyl and R_8 is -H;

R_1 and R_2 are both 1-methylcyclopropyl; R_3 and R_4 are both methyl; R_7 is ethyl and R_8 is -H;

R_1 and R_2 are both 1-methylcyclopropyl; R_3 and R_4 are both methyl; R_7 is *n*-propyl and R_8 is -H;

R_1 and R_2 are both 1-methylcyclopropyl; R_3 and R_4 are both methyl; R_7 and R_8 are both methyl;

R_1 and R_2 are both 1-methylcyclopropyl; R_3 and R_4 are both ethyl; R_7 and R_8 are both -H;

R_1 and R_2 are both 1-methylcyclopropyl; R_3 is methyl, and R_4 is ethyl; R_7 and R_8 are both -H;

R_1 and R_2 are both 2-methylcyclopropyl; R_3 and R_4 are both methyl; R_7 and R_8 are both -H;

R_1 and R_2 are both 2-phenylcyclopropyl; R_3 and R_4 are both methyl; R_7 and R_8 are both -H;

R_1 and R_2 are both 1-phenylcyclopropyl; R_3 and R_4 are both methyl; R_7 and R_8 are both -H;

R_1 and R_2 are both cyclobutyl; R_3 and R_4 are both methyl; R_7 and R_8 are both -H;

R_1 and R_2 are both cyclopentyl; R_3 and R_4 are both methyl; R_7 and R_8 are both -H;

R_1 and R_2 are both cyclohexyl; R_3 and R_4 are both methyl; R_7 and R_8 are both -H;

R_1 and R_2 are both cyclohexyl; R_3 and R_4 are both phenyl; R_7 and R_8 are both -H;

R_1 and R_2 are both methyl; R_3 and R_4 are both methyl; R_7 and R_8 are both -H;

R_1 and R_2 are both methyl; R_3 and R_4 are both *t*-butyl; R_7 and R_8 are both -H;

R_1 and R_2 are both methyl; R_3 and R_4 are both phenyl; R_7 and R_8 are both -H;

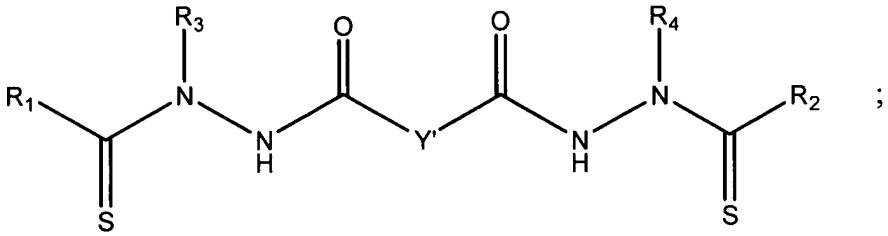
R_1 and R_2 are both *t*-butyl; R_3 and R_4 are both methyl; R_7 and R_8 are both -H;

R_1 and R_2 are ethyl; R_3 and R_4 are both methyl; R_7 and R_8 are both -H; or

R_1 and R_2 are both *n*-propyl; R_3 and R_4 are both methyl; R_7 and R_8 are both -H.

18-24. (Canceled)

25. (Currently amended) A method of treating a human subject with cancer selected from the group consisting of leukemia, uterine sarcoma and melanoma, said method comprising administering to the subject an effective amount of a compound ~~The method of Claim 24 wherein the compound is~~ represented by the following structural formula:



;

Y' is a covalent bond or $-C(R_7R_8)-$;

R_1 and R_2 are each a substituted or unsubstituted [[aryl]] phenyl group;

R_3 and R_4 are each a substituted or unsubstituted aliphatic group;

R_7 is -H; and

R_8 is -H, an unsubstituted aliphatic or substituted aliphatic group,

wherein the subject is optionally co-administered a second anti-cancer agent other than paclitaxel or a paclitaxel analog.

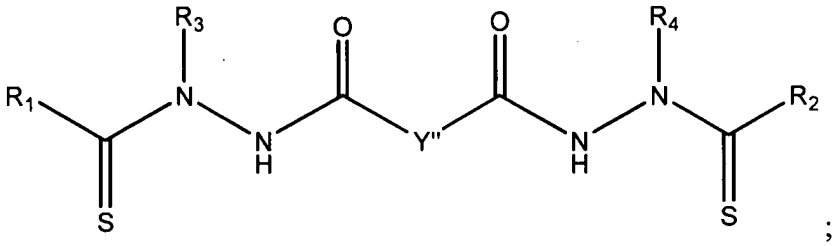
26. (Original) The method of Claim 25 wherein R_1 and R_2 are the same and R_3 and R_4 are the same.

27. (Original) The method of Claim 26 wherein R_3 and R_4 are each an alkyl group and R_8 is -H or methyl.

28. (Currently Amended) The method of Claim 27 wherein ~~R_1 and R_2 are each a substituted or unsubstituted phenyl group and~~ R_3 and R_4 are each methyl or ethyl.

29. (Currently Amended) The method of Claim 28 wherein the phenyl group represented by R_1 and the phenyl group represented by R_2 are optionally substituted with one or more groups selected from -OH, -Br, -Cl, -I, -F, $-OR^a$, $-O-COR^a$, $-COR^a$, -CN, $-NO_2$, -COOH, $-SO_3H$, $-NH_2$, $-NHR^a$, $-N(R^aR^b)$, $-COOR^a$, -CHO, $-CONH_2$, $-CONHR^a$, $-CON(R^aR^b)$, $-NHCOR^a$, $-NRCOR^a$, $-NHCONH_2$, $-NHCONR^aH$, $-NHCON(R^aR^b)$, $-NR^cCONH_2$, $-NR^cCONR^aH$, $-NR^cCON(R^aR^b)$, $-C(=NH)-NH_2$, $-C(=NH)-NHR^a$, $-C(=NH)-N(R^aR^b)$, $-C(=NR^c)-NH_2$, $-C(=NR^c)-NHR^a$, $-C(=NR^c)-N(R^aR^b)$, $-NH-C(=NH)-NH_2$, $-NH-C(=NH)-NHR^a$, $-NH-C(=NH)-N(R^aR^b)$, $-NH-C(=NR^c)-NH_2$, $-NH-C(=NR^c)-NHR^a$, $-NH-C(=NR^c)-N(R^aR^b)$, $-NR^d-C(=NH)-NH_2$, $-NR^d-C(=NH)-NHR^a$, $-NR^d-C(=NH)-N(R^aR^b)$, $-NR^d-C(=NR^c)-NH_2$, $-NR^d-C(=NR^c)-NHR^a$, $-NR^d-C(=NR^c)-N(R^aR^b)$, $-NHNH_2$, $-NHNHR^a$, $-NHNR^aR^b$ $-SO_2NH_2$, $-SO_2NHR^a$, $-SO_2NR^aR^b$, $-CH=CHR^a$, $-CH=CR^aR^b$, $-CR^c=CR^aR^b$,$-CR^c=CHR^a$, $-CR^c=CR^aR^b$, $-CCR^a$, -SH, $-SR^a$, $-S(O)R^a$, $-S(O)_2R^a$, a non-aromatic heterocyclic group, ~~a substituted non-aromatic heterocyclic group,~~ a benzyl group, ~~a substituted benzyl group,~~ an aryl group ~~or substituted aryl group~~, wherein R^a-R^d are each independently an alkyl group, ~~substituted alkyl group,~~ benzyl, ~~substituted benzyl,~~ aromatic ~~or substituted aromatic~~ group, or, $-N(R^aR^b)$, taken together, form a ~~substituted or unsubstituted~~ non-aromatic heterocyclic group.

30. (Currently amended) A method of treating a human subject with cancer selected from the group consisting of leukemia, uterine sarcoma and melanoma, said method comprising administering to the subject an effective amount of a compound ~~The method of Claim 14 wherein the compound is~~ represented by the following structural formula:



;

or a pharmaceutically acceptable salt thereof, wherein

Y" is a covalent bond or $-CH_2-$; and

R_1 and R_2 are both a substituted or unsubstituted aliphatic group; and

R_3 and R_4 are both a substituted or unsubstituted alkyl group,

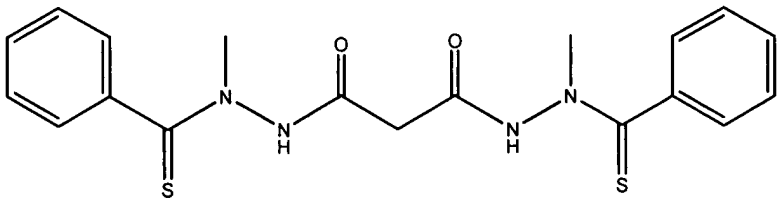
wherein the subject is optionally co-administered a second anti-cancer agent other than paclitaxel or a paclitaxel analog.

31. (Original) The method of Claim 30 wherein R_1 and R_2 are both C3-C8 cycloalkyl group optionally substituted with at least one alkyl group.

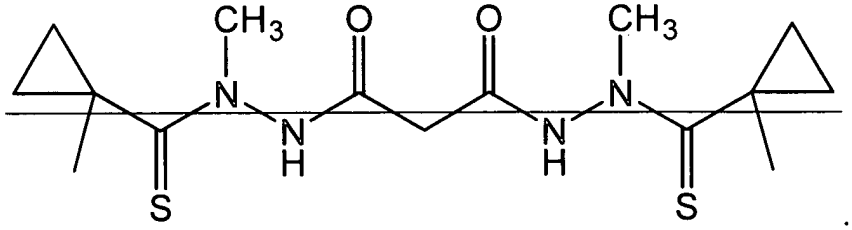
32. (Canceled)

33. (Currently Amended) The method of Claim ~~32~~30 wherein R_1 and R_2 are both cyclopropyl or 1-methylcyclopropyl.

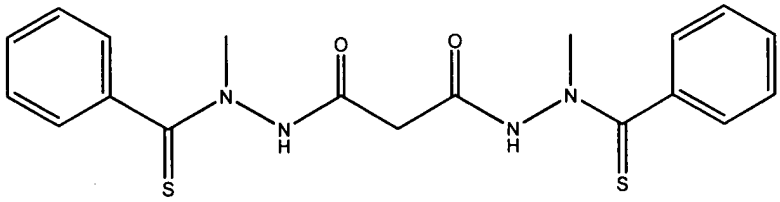
34. (Currently amended) A method of treating a subject with a multi-drug resistant cancer selected from the group consisting of leukemia, uterine sarcoma and melanoma, said method comprising administering to the subject an effective amount of a compound represented by the following structural formula: ~~The method of Claim 1, wherein the compound is~~:



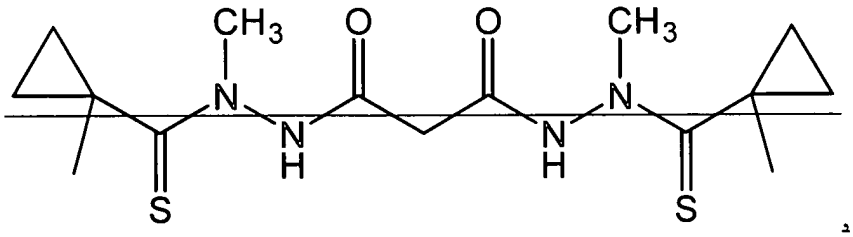
or a pharmaceutically acceptable salt thereof ~~; or~~



35. (Currently amended) A method of treating a human subject with cancer selected from the group consisting of leukemia, uterine sarcoma and melanoma, said method comprising administering to the subject an effective amount of a compound represented by the following structural formula: ~~The method of Claim 18, wherein the compound is~~:



or a pharmaceutically acceptable salt thereof~~;or~~



wherein the subject is optionally co-administered a second anti-cancer agent other than paclitaxel or a paclitaxel analog.

36. (Canceled)

37. (Currently amended) The method of Claim 8 ~~Claim 1~~, wherein the multi-drug resistant cancer is melanoma.

38. (Currently amended) The method of Claim 25 ~~Claim 18~~, wherein the cancer is ~~breast carcinoma or~~ leukemia.

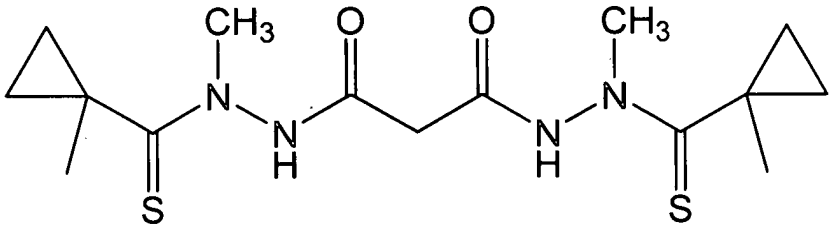
39. (Currently amended) The method of Claim 25 ~~Claim 18~~, wherein the cancer is melanoma.

40. (New) The method of Claim 8, wherein the multi-drug resistant cancer is uterine sarcoma.

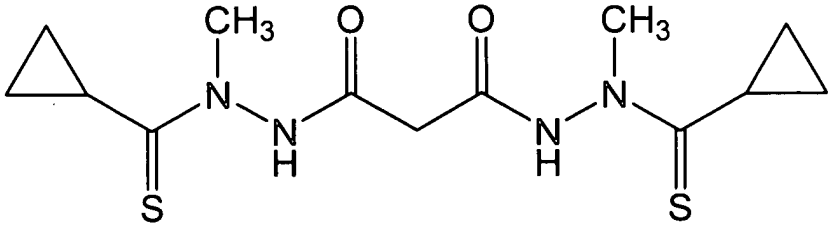
41. (New) The method of Claim 8, wherein the multi-drug resistant cancer is leukemia.

42. (New) The method of Claim 25, wherein the cancer is uterine sarcoma.

43. (New) A method of treating a subject with a multi-drug resistant cancer selected from the group consisting of leukemia, uterine sarcoma and melanoma, said method comprising administering to the subject an effective amount of a compound selected from the group consisting of:



; and



,

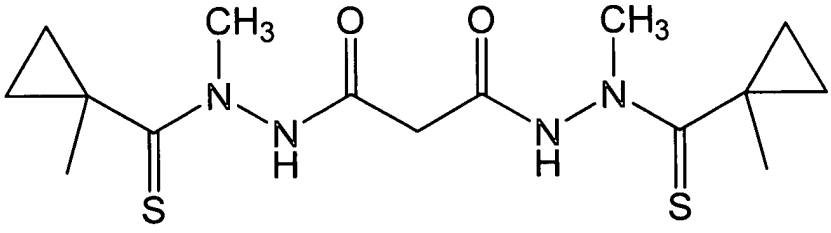
or a pharmaceutically acceptable salt thereof.

44. (New) The method of Claim 43, wherein the multi-drug resistant cancer is leukemia.

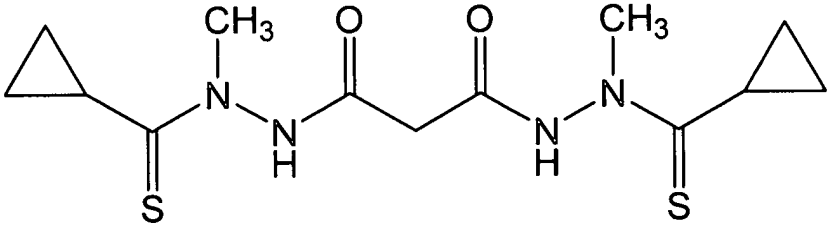
45. (New) The method of Claim 43, wherein the multi-drug resistant cancer is uterine sarcoma.

46. (New) The method of Claim 43, wherein the multi-drug resistant cancer is melanoma.

47. (New) A method of treating a human subject with cancer selected from the group consisting of leukemia, uterine sarcoma and melanoma, said method comprising administering to the subject an effective amount of a compound selected from the group consisting of:



; and



,

or a pharmaceutically acceptable salt thereof, wherein the subject is optionally co-administered a second anti-cancer agent other than paclitaxel or a paclitaxel analog.

48. (New) The method of Claim 47, wherein the cancer is leukemia.

49. (New) The method of Claim 47, wherein the cancer is uterine sarcoma.

50. (New) The method of Claim 47, wherein the cancer is melanoma.